

S/N 10/042,823

Response to Office Action Dated 06 July 2006

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**CENTRAL FAX CENTER**  
OCT 06 2006In the Claims

1. (Currently Amended) A method of printing according to a selectable dark dot gain print mode method for use in a color ink jet printer, the dark dot gain print mode, method comprising:

selecting between a dark dot gain print mode and an object definition print mode, wherein the print modes produce different output, such that the dark dot gain print mode enhances photographic image quality and the object definition print mode enhances object edge definition;

wherein printing in the dark dot gain print mode comprises:

\_\_\_\_\_selectively applying at least one dark color ink to a dry portion of a print media; and

\_\_\_\_\_only subsequently, selectively applying at least one light color ink to said portion of said print media that is still wet following said application of said at least one dark color ink; and

wherein printing in the object definition print mode comprises:

applying at least one light color ink to a dry portion of the print media; and

applying at least one dark color ink to said portion of said print media that is still wet from the application of said at least one light color ink.

2. (Currently Amended) The ~~dark dot gain print mode~~ method as recited in claim 1, wherein said at least one dark color ink has more colorant than said at least one light color ink.

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1           3.     (Currently Amended) The ~~dark-dot gain print mode~~ method as  
2 recited in claim 1, wherein:

3               said at least one dark color ink is selected from a group of color inks  
4 comprising Black (K) ink, dark Magenta (M) ink, and dark Cyan (C) ink; and

5               said at least one light color ink is selected from a group of color inks  
6 comprising Yellow (Y) ink, light magenta (m) ink, and light cyan (c) ink.

7  
8           4.     (Currently Amended) ~~An object definition print mode method for~~  
9 ~~use in a color ink jet printer, the object definition print mode method comprising:~~

10               ~~selectively applying at least one light color ink to a dry portion of a print~~  
11 ~~media; and~~

12               ~~only subsequently, selectively applying at least one dark color ink to said~~  
13 ~~portion of said print media that is still wet following said application of said at~~  
14 ~~least one light color ink.~~

15               The method as recited in claim 1, wherein:

16               selecting between said at least two print modes is based on content to be  
17 printed on said print media.

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1           5.     ~~(Currently Amended) The object definition print mode method as~~  
2 ~~recited in claim 4, wherein said at least one dark color ink has a more colorant~~  
3 ~~than said at least one light color ink.~~

4           The method as recited in claim 1, wherein:  
5           selecting between said the print modes is based in part on a parameter  
6 associated with the inks.

7  
8           6.     ~~(Currently Amended) The object definition print mode method as~~  
9 ~~recited in claim 4, wherein:~~

10           ~~said at least one dark color ink is selected from a group of color inks~~  
11 ~~comprising Black (K) ink, dark Magenta (M) ink, and dark Cyan (C) ink; and~~

12           ~~said at least one light color ink is selected from a group of color inks~~  
13 ~~comprising Yellow (Y) ink, light magenta (m) ink, and light cyan (c) ink.~~

14           The method as recited in claim 1, wherein:  
15           selecting between the print modes is based in part on a parameter associated  
16 with the print media.

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1           7.     (Currently Amended) An adaptable print mode method for use in a  
2 color ink jet printer, the adaptable print mode method comprising:

3           selecting between at least two print modes comprising a dark dot gain print  
4 mode and an object definition print mode, wherein the print modes produce  
5 different output, such that the dark dot gain print mode enhances photographic  
6 image quality and the object definition print mode enhances object edge definition,  
7 and wherein:

8           said dark dot gain print mode is configured to cause at least one dark color  
9 ink to be selectively applied to a dry portion of a print media, and thereafter at  
10 least one light color ink to be selectively applied to said portion of said print media  
11 while still wet from said application of said at least one dark color ink, and

12           said object definition print mode is configured to cause said at least one  
13 light color ink to be selectively applied to said dry portion of said print media, and  
14 thereafter said at least one dark color ink to be selectively applied to said portion  
15 of said print media while still wet from said application of said at least one light  
16 color ink.

17  
18           8.     (Currently Amended) The adaptable print mode method as recited in  
19 Claim 7, wherein selecting between said at least two print modes is includes  
20 ~~selecting one of said at least two print modes based on content to be printed on~~  
21 ~~said print media.~~

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1           9.     (Currently Amended) The adaptable print mode method as recited in  
2 Claim 7, wherein selecting between said at least two print modes is includes  
3 ~~selecting one of said at least two print modes~~ based on at least one parameter  
4 associated with said inks.

5  
6           10.    (Currently Amended) The adaptable print mode method as recited in  
7 Claim 7, wherein selecting between said at least two print modes is includes  
8 ~~selecting one of said at least two print modes~~ based on at least one parameter  
9 associated with said print media.

10  
11           11.    (Original) The adaptable print mode method as recited in Claim 7,  
12 wherein said at least one dark color ink has more colorant than said at least one  
13 light color ink.

14  
15           12.    (Original) The adaptable print mode method as recited in Claim 7,  
16 wherein:

17               said at least one dark color ink is selected from a group of color inks  
18 comprising Black (K) ink, dark Magenta (M) ink, and dark Cyan (C) ink; and

19               said at least one light color ink is selected from a group of color inks  
20 comprising Yellow (Y) ink, light magenta (m) ink, and light cyan (c) ink.

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22           13.    (Cancel)

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24           14.    (Cancel)

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1  
2 15. (Currently Amended) The method as recited in Claim 7[[13]],  
3 wherein ~~selectively ordering said sequential application of said at least two~~  
4 ~~marking materials based on said amount of colorant associated with each of said at~~  
5 ~~least two marking materials further includes:~~

6 ~~selectively ordering that a first one of said at least two marking materials~~  
7 ~~having a first amount of colorant is applied to said print media prior to a second~~  
8 ~~one of said at least two marking materials having a second amount of colorant,~~  
9 ~~wherein said first amount of colorant is greater than said second amount of~~  
10 ~~colorant.~~

11 an amount of dark color ink is greater than an amount of light color ink.

12  
13 16. (Currently Amended) The method as recited in Claim 7[[13]],  
14 wherein ~~selectively ordering said sequential application of said at least two~~  
15 ~~marking materials based on said amount of colorant associated with each of said at~~  
16 ~~least two marking materials further includes:~~

17 ~~selectively ordering that a first one of said at least two marking materials~~  
18 ~~having a first amount of colorant is applied to said print media prior to a second~~  
19 ~~one of said at least two marking materials having a second amount of~~  
20 ~~colorant wherein said second amount of colorant is greater than said first amount of~~  
21 ~~colorant.~~

22 an amount of light color ink is greater than an amount of dark color ink.

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1 17. (Currently Amended) The method as recited in Claim 7[[13]],  
2 wherein ~~selectively ordering said sequential application of said at least two~~  
3 ~~marking materials based on said amount of colorant associated with each of said at~~  
4 ~~least two marking materials further includes:~~

5 ~~associating said sequential application of said at least two marking~~  
6 ~~materials with at least two different printing passes to be conducted over an~~  
7 ~~applicable portion of said print media.~~

8 selecting between the print modes comprises distinguishing photos and  
9 graphics.

10  
11 18. (Currently Amended) The method as recited in Claim [[17]]Z,  
12 wherein ~~said applicable portion is associated with a single pixel.~~ selecting between  
13 print modes is based in part on identifying a type of an area to be printed.

14  
15 19. (Currently Amended) The method as recited in Claim [[13]]Z,  
16 further comprising:

17 ~~providing at least one identifying parameter associated with at least one of~~  
18 ~~said two marking materials; and~~

19 ~~wherein selectively ordering said sequential application of said at least two~~  
20 ~~marking materials based on said amount of colorant associated with each of said at~~  
21 ~~least two marking materials further includes selectively ordering said sequential~~  
22 ~~application of said at least two marking materials based on said at least one~~  
23 ~~identifying parameter.~~

24 building a print map based on a selected print mode.

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1  
2 20. (Currently Amended) The method as recited in Claim ~~[[13]]~~19,  
3 further comprising:

4 ~~providing at least one identifying parameter associated with said print~~  
5 ~~media; and~~

6 ~~wherein selectively ordering said sequential application of said at least two~~  
7 ~~marking materials based on said amount of colorant associated with each of said at~~  
8 ~~least two marking materials further includes selectively ordering said sequential~~  
9 ~~application of said at least two marking materials based on said at least one~~  
10 ~~identifying parameter.~~

11 applying ink according to the print map.

12  
13 21. (Currently Amended) The method as recited in Claim ~~[[13]]~~7,  
14 further comprising:

15 ~~providing a print map that indicates said selected ordering of said~~  
16 ~~sequential application of said at least two marking materials.~~

17 building a print map based on the selecting between the dark dot gain mode  
18 and the object definition mode.

19  
20 22. (Currently Amended) The method as recited in Claim 21, further  
21 comprising:

22 ~~sequentially applying said at least two marking materials to said print~~  
23 ~~media based on said print map. ink based on the print map.~~



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1           23. (Currently Amended) The method as recited in Claim [[22]]7,  
2 wherein ~~sequentially applying said at least two marking materials to said print~~  
3 ~~media based on said print map includes:~~

4           ~~causing at least two ink jet pens to apply liquid ink marking materials to~~  
5 ~~said print media based on said print map during a multi-pass printing process is~~  
6 ~~used.~~

7  
8           24. (Currently Amended) A printing device comprising:  
9           an ink-jet printing mechanism configurable to selectively apply at least two  
10 different color inks to a print media; and

11           logic operatively coupled to said ink-jet printing mechanism and configured  
12 to select between at least two print modes comprising a dark dot gain print mode  
13 and an object definition print mode, wherein the print modes produce different  
14 output, such that the dark dot gain print mode enhances photographic image  
15 quality and the object definition print mode enhances object edge definition, and  
16 wherein:

17           in said dark dot gain print mode, said logic causes said ink-jet printing  
18 mechanism to selectively apply at least one dark color ink to a dry portion of said  
19 print media, and only thereafter apply at least one light color ink to said portion of  
20 said print media while still wet with said at least one dark color ink, and

21           in said object definition print mode, said logic causes said ink-jet printing  
22 mechanism to selectively apply at least one light color ink to said dry portion of  
23 said print media, and only thereafter apply at least one dark color ink to said  
24 portion of said print media while still wet with said at least one light color ink.  
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1  
2           25.   (Original) The printing device as recited in Claim 24, wherein said  
3 logic selects between said at least two print modes based on content to be printed  
4 on said print media.

5  
6           26.   (Original) The printing device as recited in Claim 24, wherein said  
7 logic selects between said at least two print modes based on at least one parameter  
8 associated with said inks.

9  
10          27.   (Original) The printing device as recited in Claim 24, wherein said  
11 logic selects between said at least two print modes based on at least one parameter  
12 associated with said print media.

13  
14          28.   (Original) The printing device as recited in Claim 24, wherein said at  
15 least one dark color ink has a greater amount of colorant than said at least one light  
16 color ink.

17  
18          29.   (Original) The printing device as recited in Claim 24, wherein:  
19               said at least one dark color ink is selected from a group of color inks  
20 comprising Black (K) ink, dark Magenta (M) ink, and dark Cyan (C) ink; and  
21               said at least one light color ink is selected from a group of color inks  
22 comprising Yellow (Y) ink, light magenta (m) ink, and light cyan (c) ink.

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24          30.   (Cancel)  
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1  
2 31. (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
3 wherein said logic is further operatively configurable to access source file data  
4 defining at least one object to be printed on said print media using ~~said at least two~~  
5 different liquid inks.

6  
7 32. (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
8 wherein ~~said printing sequence establishes that a first one of said at least two~~  
9 ~~different liquid inks having a first amount of colorant is to be applied to said print~~  
10 ~~media prior to applying a second one of said at least two different liquid inks~~  
11 ~~having a second amount of colorant that is lower than said first amount of~~  
12 ~~colorant; the dark color ink has less colorant than the light color ink.~~

13  
14 33. (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
15 wherein ~~said printing sequence establishes that a first one of said at least two~~  
16 ~~different liquid inks having a first amount of colorant is to be applied to said print~~  
17 ~~media after applying a second one of said at least two different liquid inks having~~  
18 ~~a second amount of colorant that is higher than said first amount of colorant; the~~  
19 ~~dark color ink has more colorant than the light color ink.~~

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1        34. (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
2 wherein said ~~printing sequence~~ print mode defines when, during at least two  
3 different printing passes, each of said ~~at least two different liquid inks are ink is to~~  
4 be applied to an applicable portion of said print media.

5  
6        35. (Currently Amended). The apparatus as recited in Claim ~~[[30]]~~34,  
7 wherein said applicable portion is ~~associated with a single pixel provided in source~~  
8 ~~file data defining at least one object to be printed on said print media using said at~~  
9 ~~least two different liquid inks.~~ defined to include a photograph.

10  
11        36. (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
12 wherein said logic is further configurable to operatively ~~consider at least one~~  
13 ~~identifying parameter associated with at least one of said two different liquid inks~~  
14 ~~when determining said printing sequence.~~ identify a type of area to be printed.

15  
16        37. (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
17 wherein said logic is further configurable to operatively ~~consider at least one~~  
18 ~~identifying parameter associated with said print media when determining said~~  
19 ~~printing sequence.~~ identify types of inks and media.

20  
21        38. (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
22 wherein said logic is further configurable to establish print map data defining said  
23 printing sequence.

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1           39.   (Currently Amended) The apparatus as recited in Claim 38, further  
2 comprising:

3           a printing mechanism operatively coupled to said logic and configurable to  
4 ~~receive said print map data and in response sequentially apply said at least two~~  
5 ~~different liquid inks~~ deliver ink to said print media according to said printing  
6 sequence print map data.

7  
8           40.   (Currently Amended) The apparatus as recited in Claim 39, wherein  
9 said printing mechanism ~~in response to said print map individually applies each of~~  
10 ~~said at least two different liquid inks to said print media during different printing~~  
11 ~~passes.~~ applies ink based on said print map data.

12  
13           41.   (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
14 wherein said logic is operatively configurable within a printing device.

15  
16           42.   (Currently Amended) The apparatus as recited in Claim ~~[[30]]~~24,  
17 wherein said logic is operatively configurable within a computer device.

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19           43.   (Cancel)  
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1 44. (Original) A method for use in a printing device, the method  
2 comprising:  
3 determining dot gain requirements; and  
4 selectively altering an ink application order based on said determined dot  
5 gain requirements.  
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